



角器/佐成の図（京都市立西宮南校）
（中京市立西宮南校による当時の複製図）

FIG. 1
PRIOR ART

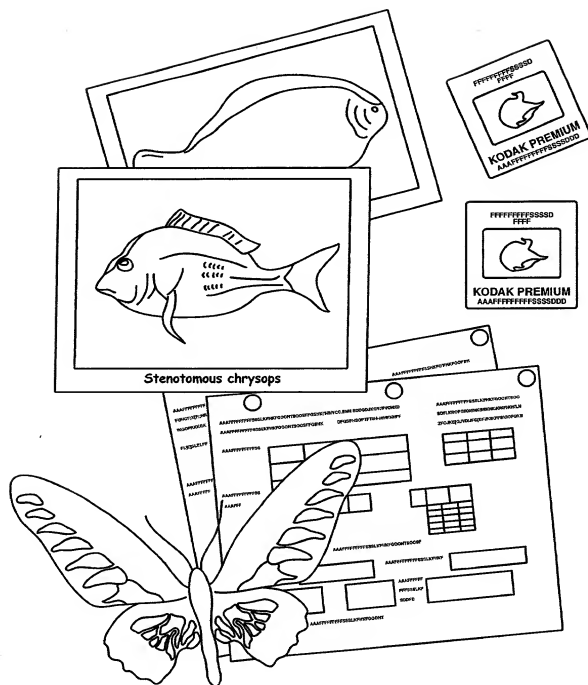


FIG. 2
PRIOR ART

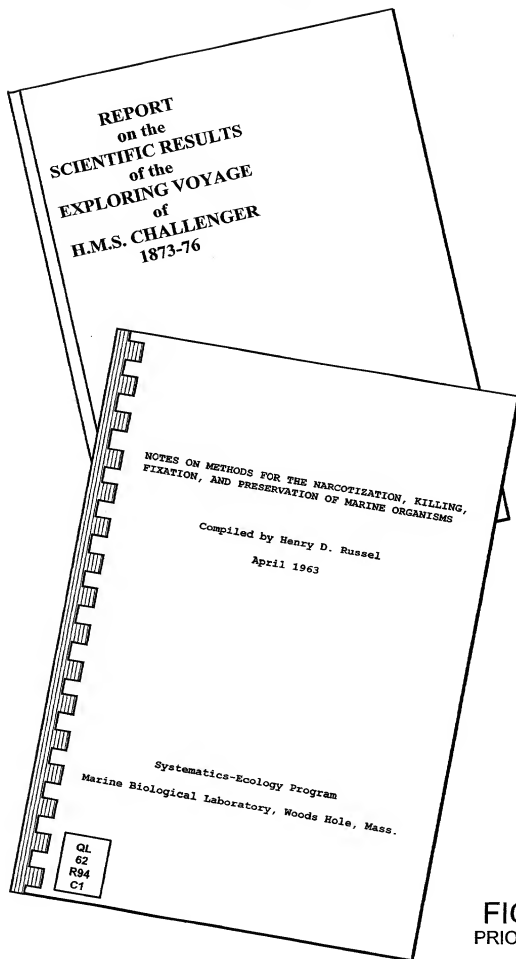


FIG. 3
PRIOR ART

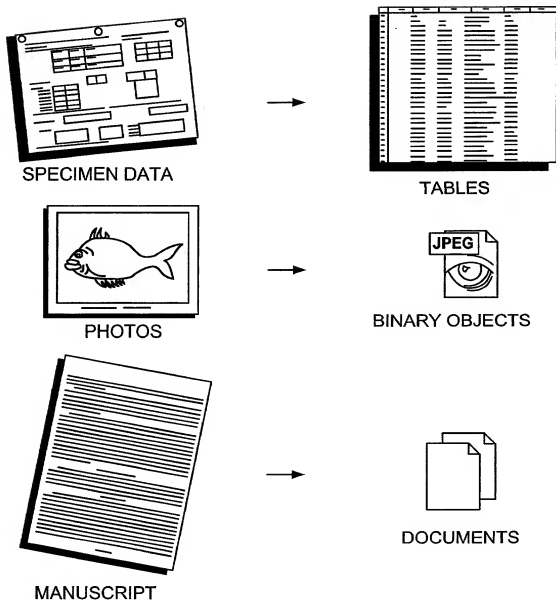


FIG. 4
PRIOR ART

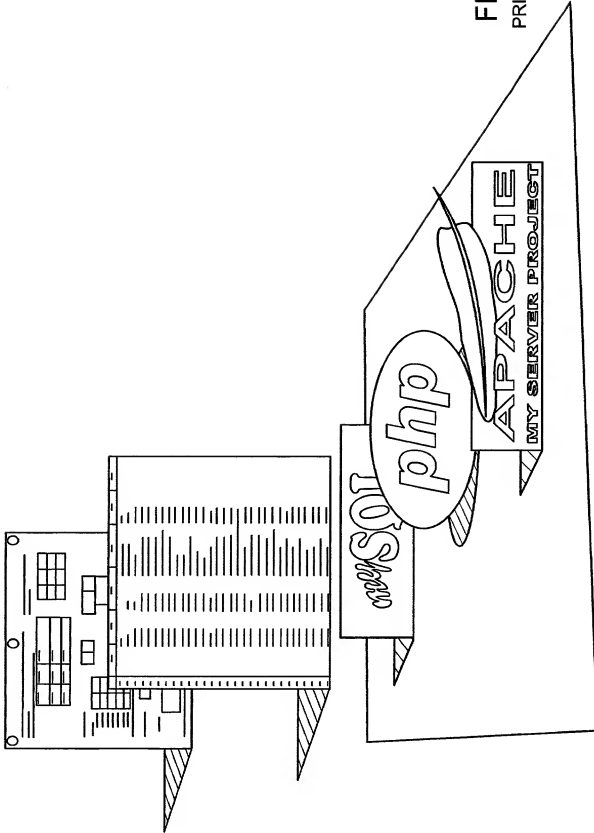


FIG. 5
PRIOR ART

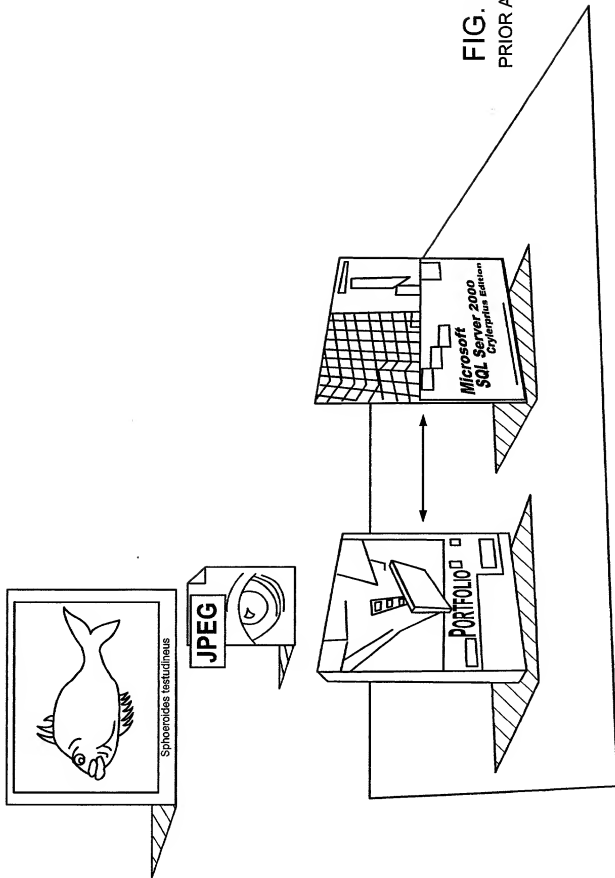


FIG. 6
PRIOR ART

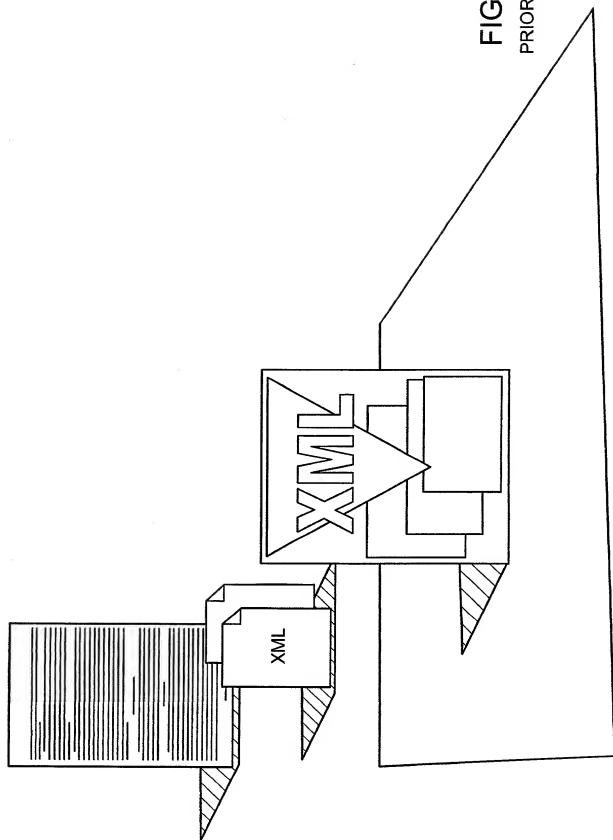


FIG. 7
PRIOR ART

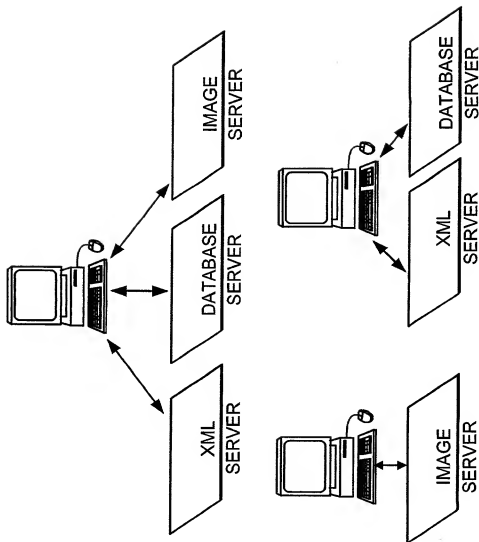


FIG. 8
PRIOR ART

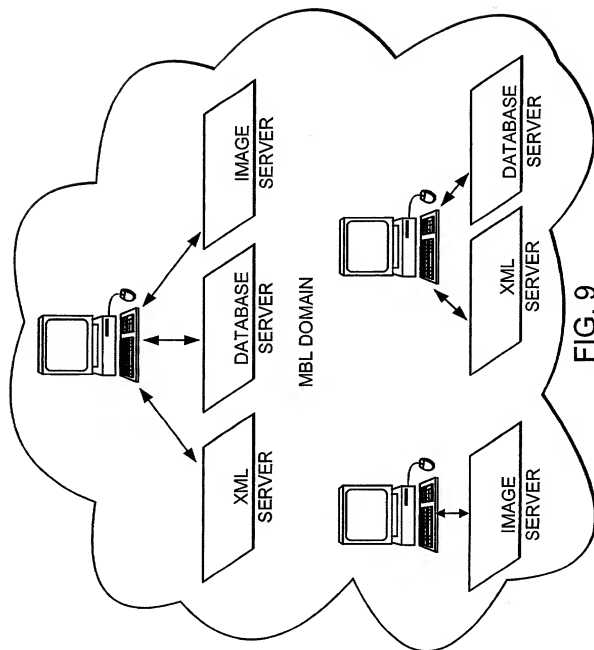


FIG. 9
PRIOR ART

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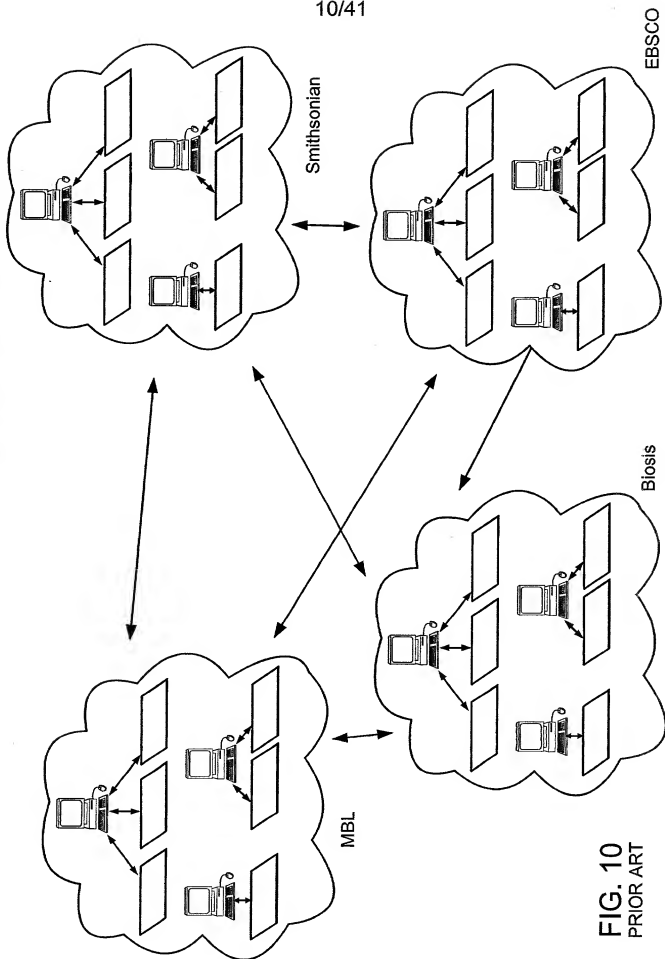


FIG. 10
PRIOR ART

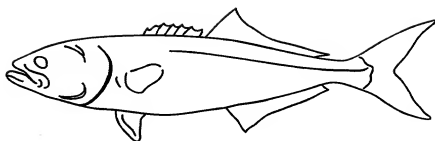


FIG. 11

Patterson
. Organisms
... Eukaryote
..... Opisthokonts
..... Choanoflagellates And Animals
..... Metazoa
..... Chordata
..... Vertebrata
..... Gnathostomata
..... Osteichthyes
..... Actinopterygii
..... Perciformes
..... Pomatomidae
..... Pomatomus
..... Pomatomus saltator

Margulis
Animalia
. Chordata
.. Craniata
... Gnathostomata
..... Osteichthyes
..... Actinopterygii
..... Perciformes
..... Pomatomidae
..... Pomatomus
..... Pomatomus saltator

FIG. 12

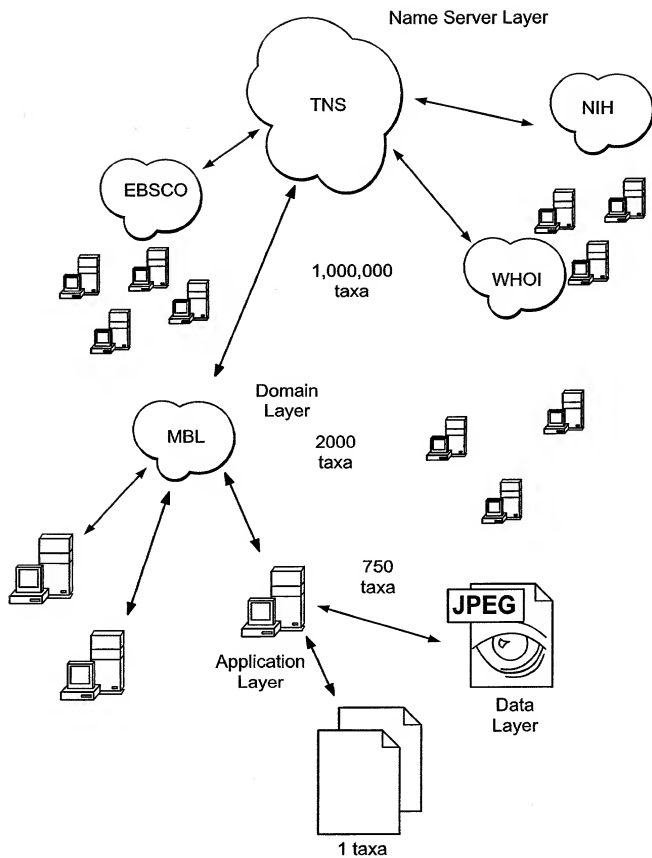


FIG. 13

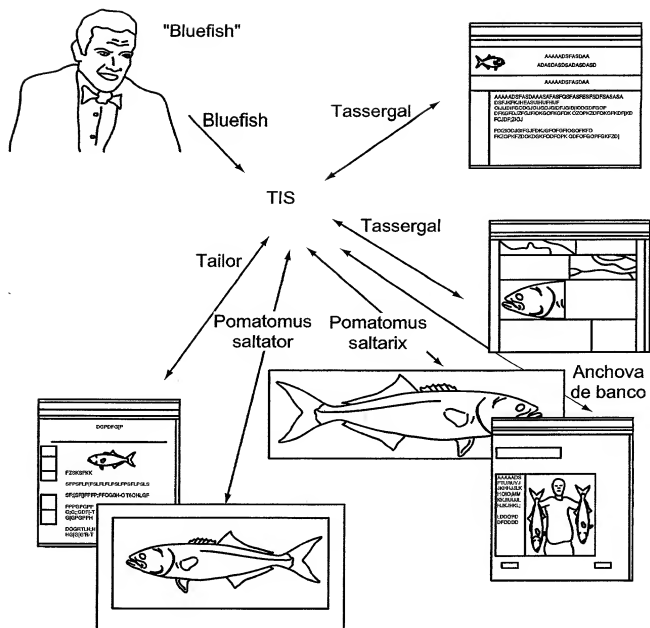
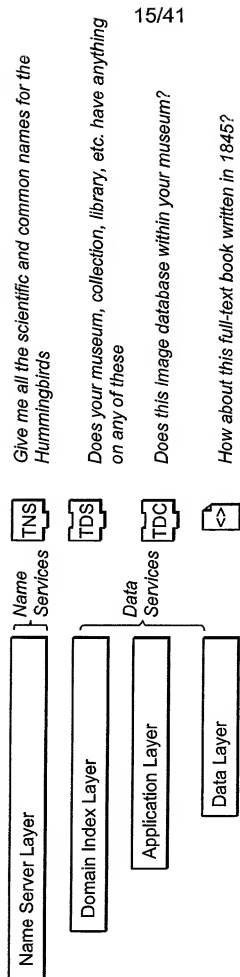


FIG. 14



15/41

FIG. 15

Scientific names for the bluefish, *Pomatomus saltator*

Cheilodipterus heptacanthus

Cheilodipterus saltatrix

Chromis epicurorum

Gasterosteus saltatrix

Gonenion serra

Lopharis mediterraneus

Perca lophar

Pomatomus pedica

Pomatomus saltator

Pomatomus saltatrix

Pomatomus skib

Scomer sypterus

Sparactodon nainal

Sypterus pallasii

Temnodon conidens

Temnodon saltator

Temnodon tubulus

Other names

Bluefish (FAO/English)

Tassergal (FAO/French)

Anjova (FAO/Spanish)

Sinikala (Finnish)

Blaufisch (German)

Gofári (Greek)

Pesce serra (Italian)

Amikiri (Japanese)

Anchova (Portuguese)

Plitica (Serbo-Croat)

Strjelka skakusa (Serbo-Croat)

Lüfer (Turkish)

Blue-fish (English)

Anchova (Portuguese)

Bluefish (AFS/English)

Shad (English)

Elf (English)

Tekwaya (Arabic)

Tekwa (Arabic)

Tasergal (Polish)

Teleskopabborre (Swedish)

Dyphavsabbor (Norwegian)

Enchova (Portuguese)

Tailor (English)

Skipjack (English)

Anchova de banco (Spanish)

Elwe (Afrikaans)

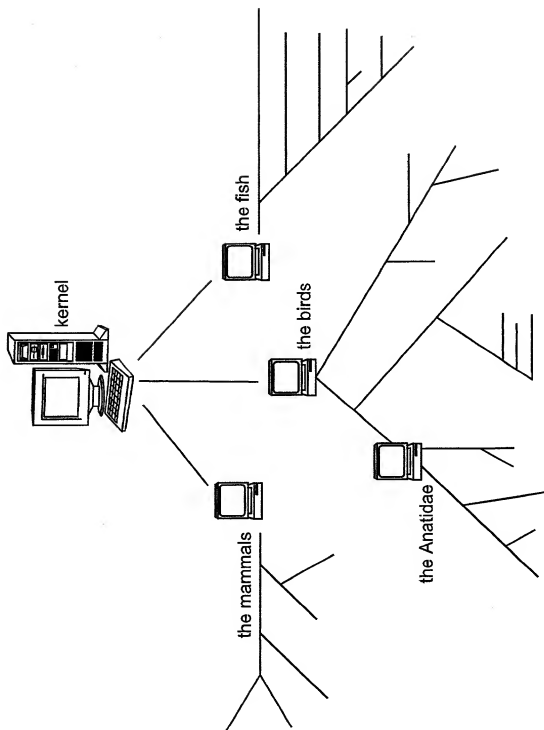


FIG. 17

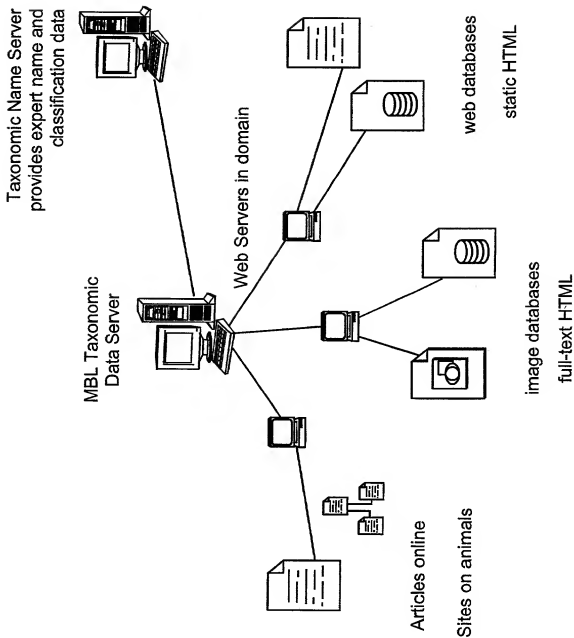


FIG. 18

Function name	What it does
<code>classifications();</code>	returns the canonical list of classifications from the name server
<code>me(\$myID,\$d,\$type,\$l)</code>	returns the name of entity myID according to the type attribute provided
<code>name_types(\$d);</code>	returns a \$d delimited array of name types such as "English,French,ICZN-Current, Synonym, Misspelling, etc.
<code>chroot(\$myID,\$classification)</code>	sets the name server root of the application to \$myID. Sets parent of myID to zero. Allows developers of taxa specific applications to only use relevant parts of the classification
<code>names(\$myID,\$d,\$order,\$l)</code>	returns an ary delimited by string, \$d
<code>children(\$myID,\$d,\$classification,\$type,\$order,\$l)</code>	returns an array of the children on \$myID according to the classification \$classification. Other options include the name type to return, sort order, etc.
<code>parent(\$myID,\$d,\$classification,\$type,\$order,\$l)</code>	Ancestry of \$myID with many output options
<code>list_my_children(\$myID)</code>	A recursive function for dumping tree information.
<code>get_name(\$myID,\$name_type,\$date,ref)</code>	Return a specific name for a taxa such as the French form or the currently accepted name or a junior synonym.
<code>classify(\$myID,\$classification,\$length)</code>	Returns an array of ancestry for a given classification to a given number of steps relative to the taxa. A length of 0 returns to the tree root.
<code>names(\$myID,\$fields)</code>	Returns an array of all names for a given taxonomic entity. Fields returned in the array can be specified.
<code>dump(\$myID,\$delimiter,\$fields,\$classification)</code>	Dumps from myID down in spreadsheet form
<code>pad(\$myID,\$s,\$class,\$root) -</code>	Delimiters used to pad the taxonomic level type. Ex (pad (AR201,"=-","1C",5) outputs "=-=-=-=-=-" because according to classification "1C" this entity (a genus) would be indented six places to correspond to the six levels from the starting point of level "5" (corresponding to "Phylum") from the root of classification 1C.

FIG. 19



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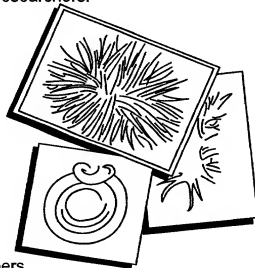
Marine Animals at the MBL

Find

.... ▾ **Metazoa -->**

- ▸ **Annelida** Segmented Worms
- ▸ **Arthropoda** Joint-legged animals
- ▸ **Bryozoa** Moss Animals
- ▸ **Chaetognatha** Arrow Worms
- ▸ **Chordata** Vertebrates and allies
- ▸ **Cnidaria** Coelenterates
- ▸ **Ctenophora** Comb Jellies
- ▸ **Echinodermata** Spiny-skinned Animals
- ▸ **Hemichordata** Acorn Worms
- ▸ **Mollusca** Mollusks
- ▸ **Nemertea** Ribbon Worms
- ▸ **Platyhelminthes** Flatworms
- ▸ **Porifera** Sponges
- ▸ **Sipuncula** Peanut Worms

This database represents approximately 200 species of marine organisms available in our Marine Resources Center and collected by the Aquatic Resources Division. Most of these organisms are available for purchase by qualified educational institutions and researchers.



Expand from Metazoa down. (560 taxa)

This program uses the Taxonomic Name Server for name authority information.

Server numbers

Click on grouping at left for a listing of species

FIG. 20

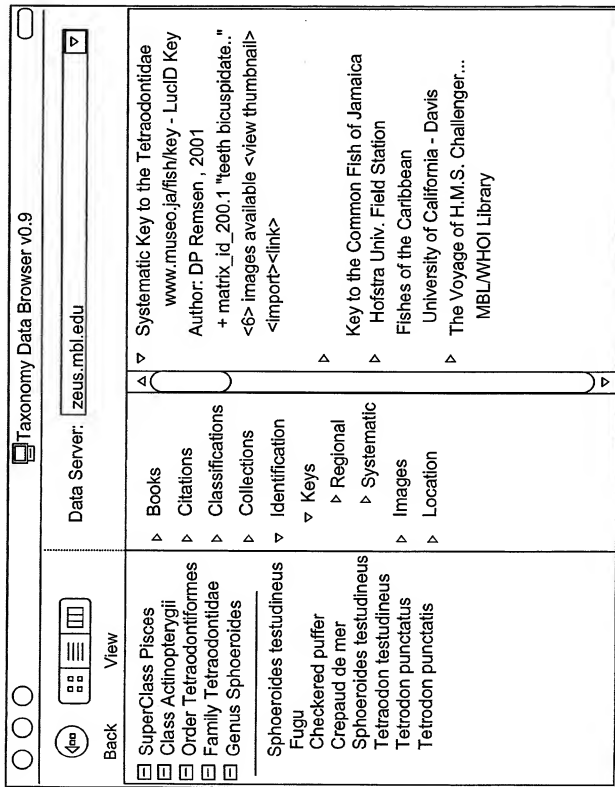


FIG. 21

SUMMARY OF RESULTS

- Cythere crispata*, Brady. Obtained also at Station 187 and Port Jackson.
 " *cymba*, Brady. Obtained also at Station 233B, 15 fathoms. Recorded from Hong Kong.
 " *goujoni*, Brady. Obtained also at Station 187 and Port Jackson.
 " *darwini*, Brady. Obtained also at Station 233B, 15 fathoms. Recorded from Java
 " *cribriformis*, Brady. Obtained at no other locality by the Challenger.
Loxococoncha sinensis, Brady. Obtained also at Station 233B, 15 fathoms. Recorded from Hong Kong.
Bythocythere orientalis, Brady. Obtained also in Torres Strait.
Cytherella cingulata, Brady. Obtained also at Stations 187, 189, and Port Jackson

MACRUHA (Spence Bate, Zool. pt. 52).

- Alpheus ruxax*, Fabricius. One specimen (10 fathoms); obtained at no other locality by the Challenger.
Nauticaris unirecedens, n.g., n.sp. One specimen; obtained at no other locality.

ANOMURA (Henderson, Zool. pt. 69)

- Spiropagurus spiriger* (De Haan), One specimen in the shell of *Pleurotoma* (10 fathoms); for distribution see Torres Strait.
Porcellana serratifrons, Stimson. One specimen (10 fathoms); obtained also in Arafura Sea.
Rephidopus ciliatus, Stimpson. One specimen (10 fathoms); obtained at no other locality by the Challenger. Recorded from Hong Kong.

BRACHYCRA (Miers, Zool. pt. 49)

- Neptunas (Amphitrite) hastatooides* (Fabricius). Several Specimens (10 fathoms); obtained also at Stations 188, 233B, and Japan.
Goniosoma cruciferum (Fabricius). One specimen (7 fathoms); obtained at no other locality by the Challenger.
Arcunia septemspinosa (Fabricius). Three specimens (10 fathoms) obtained also at Station 233B, 16 fathoms, and Japan.
Leucosia craniolaris (Linué). Two specimens (10 fathoms); obtained also at Stations 188, 190, and Japan.
Dorippe facchino (Herbst). One specimen (10 fathoms); obtained at no other locality by the Challenger.

GASTEROPODA (Watson, Zool. pt. 42).

- Pleurotoma (Surcula) tuberculata*, Gray. (10 fathoms); obtained also in Arafura Sea.

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June, whereas the contain only smaller eggs after the early part of July. No individual, however, is actually known to have given birth to two broods in a single summer.

The sand shark, *Carcharias Littoralis*, the most common shark at Woods Hole during the summer, so far as I know, has never been taken during the breeding season all the individuals being apparently imma

FIG. 23

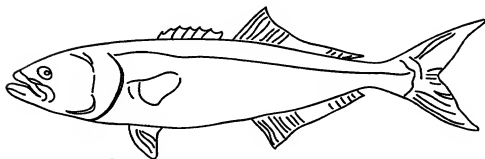
The Bluefish, *Pomatomus saltator*

FIG. 24


2007-10-12 12:52:00

MBL Search: Pomatomus salator

Back Forward Refresh Home AutoFill Print Mail

Address: <http://zeus.mbl.edu/zeus/search.php3?per=10&q=Pomatomus+salator&f=&con0&per=20>

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Search for: Pomatomus salator

Search what: Entire site

Output format: Long

Results per page: 20

Search!

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FIG. 25

www.fishbase.org

Classification Information


SuperClass Pisces
Class Actinopterygii
Order Perciformes
Family Pomatomidae
Genus Pomatomus
Binomen Pomatomus saltator

Common Names of *Pomatomus saltator*Synonyms of *Pomatomus saltator*

Synonym	Author	Status
<i>Pomatomus saltator</i>	(Lumaeus, 1766)	misspelling
<i>Gasterosteus saltator</i>	(Lumaeus, 1766)	original combination
<i>Pomatomus saltator</i>	(Lumaeus, 1766)	new combination
<i>Terminator saltator</i>	(Lumaeus, 1766)	new combination
<i>Pomatomus saltator</i>	(Lumaeus, 1766)	new combination
<i>Crestedichthys saltator</i>	(Lumaeus, 1766)	new combination
<i>Forca lophus</i>	Fernald, 1775	junior synonym
<i>Crestedichthys haplocephalus</i>	Leopoldo, 1801	junior synonym
<i>Pomatomus silius</i>	Lacépède, 1802	junior synonym
<i>Lachnatis maculata</i>	Rafinesque, 1810	junior synonym
<i>Gasterichthys senna</i>	Rafinesque, 1810	junior synonym
<i>Scorpaenopsis</i>	Pallas, 1814	junior synonym
<i>Syllipnus saliens</i>	Eichwald, 1831	junior synonym
<i>Chromis sphaerocauda</i>	Günther, 1864	junior synonym
<i>Terminator coridius</i>	Günther, 1864	junior synonym
<i>Stenacodon nalis</i>	Roches, 1880	junior synonym
<i>Terminator lunatus</i>	Saville Kent, 1893	other

FIG. 27



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1. Macrofauna description [2]

Description of the Macrofauna in Plum Island Sound Macrofauna are abundant and diverse throughout the Plum Island Sound estuary. Twenty eight species of fish have been recorded in the brackish to marine areas and another 10 from the freshwater portion....

• <http://ecosystems.mbl.edu/PIE/data/HTL/HTLDescription.htm> (text/html) Wed, 19 Jul 2000 15:11:39 GMT, 3406 bytes

2. No title [2]

DATE STATION STATE X STATE Y LAT LON SPECIES TOTAL WEIGHT 23-Sep-1993 HTL-PR-21 247524.8 944832.3 42.75263608 70.91949172 Alosa aestivalis 1 1.2 20-Oct-1993 HTL-PR-21 247524.8 944832.3 42.75263608 70.91949172 Apeltes quadracus 1 0.6 23-Nov-1993 HTL-P...

• <http://ecosystems.mbl.edu/PIE/data/HTL/HTL-PR-Survey.txt> (text/html) Wed, 19 Jul 2000 14:53:41 GMT, 174862 bytes

3. No title [2]

STATION STATE X STATE Y LAT LON SAL SITE NAME SCI NAME 15N 13C 34S HTL-SO-3(Knob) 257402.95 942546.27 42.73139029 70.79906604 30 MID sand shrimp Crangon septemspinosa 10.5 -16.3 8.6 HTL-SO-5(Sub Headquarters) 256334.1 945265.44 42.75594527 70.81184907...

• <http://ecosystems.mbl.edu/PIE/data/HTL/HTL-PR-Isotope.txt> (text/html) Wed, 19 Jul 2000 14:18:16 GMT, 8767 bytes

4. No title [2]

Plum Island Ecosystem Long Term Ecological Research (PIE-LTER) LMER Intercomparison Stable Isotope Data Set Updated 2/14/97 Organic matter Real/measured Forward model stable isotope data Budgets stable...

• <http://ecosystems.mbl.edu/PIE/data/STP/STP-VA-OMInterisotope.txt> (text/html) Wed, 19 Jul 2000 15:18:07 GMT, 20535 bytes

FIG. 28

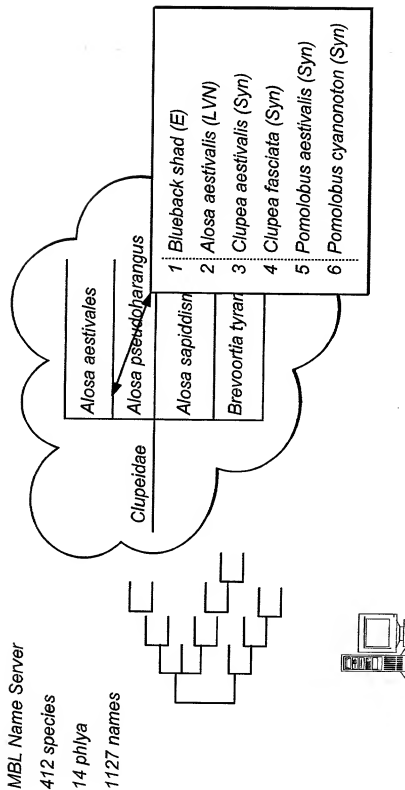


FIG. 29

Classification: ICLARM:FishBase

....SuperClass **Pisces**
Class **Actinopterygii**
Order **Perciformes**
Family **Pomatomidae**
Genus **Pomatomus**
Binomen **Pomatomus saltator**

Names:

Bluefish (E)
 Pomatomus saltator (LVN)
 Cheilodipterus heptacanthus (Syn)
 Cheilodipterus saltatrix (Syn)
 Cromis epicurorum (Syn)
 Gasterosteus saltatrix (Syn)
 ...

Links: *Pomatomus saltator*

MBL

Database of Marine Organisms

The Flesher Slides Collection

The Biological Bulletin Citations Database

MRC Catalog of Specimens

Compendium of Eggs and Embryoes

The Teaching Charts of Rudolph Leuckar

FIG. 30

Classification: C109

FIG. 31

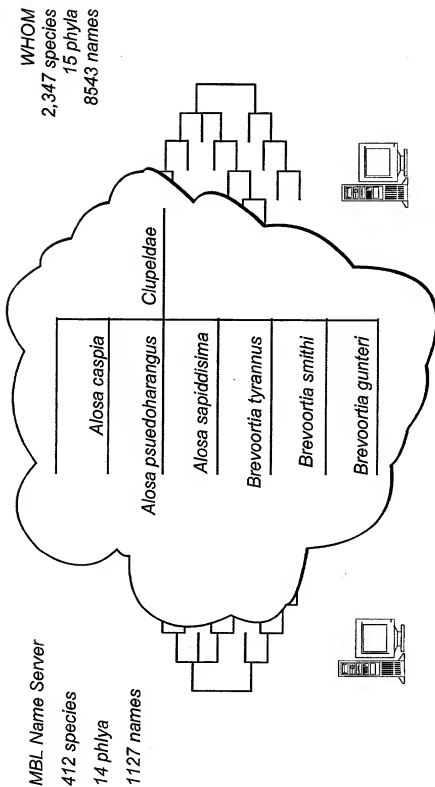


FIG. 32

Classification: ICARM:FishBase

....SuperClass **Pisces**
Class **Actinopterygii**
Order **Clupeiformes**
Family **Clupeidae**
Genus **Brevoortia**
Binomen **Brevoortia tyrannus**

Names:

Atlantic menhaden (E)
 Brevoortia tyrannus (L)
 Clupea carolinensis (Syn)
 Clupea menhaden (Syn)
 Clupea neglecta (Syn)
 Clupea tyrannus (Syn)

Links: Brevoortia tyrannus

MBL

Database of Marine Organisms
The Flescher Slides Collection
The Biological Bulletin Citations Database
MRC Catalog of Specimens
Compendium of Eggs and Embryoes
The Teaching Charts of Rudolph Leucka?
Woods Hole Oceanographic Institution
Discovery: The Salt Marsh
Mariner Library Catalog
Oceanus Magazine: Oct 1983 Issue
JASON Project. 1997 Fisheries Worldw?
Laboratory of Dr. Peter Cummins

FIG. 33

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Metanema
Metromonas
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Microcomeites
Microhabitaf
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Mite
Mite
Monas
MONOCERCOMONADINAE
Mothscale
Motilebact
Motilebactdet

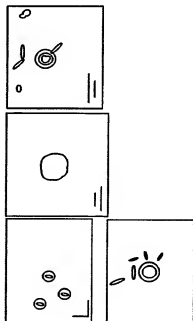


FIG. 34

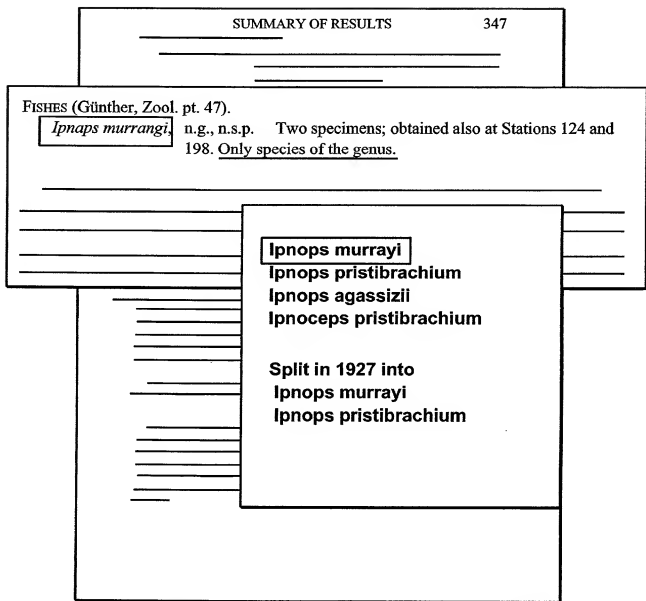


FIG. 35

FIG. 36A
FIG. 36B
FIG. 36C

FIG. 36

dTNS (distributed Taxonomic Name Server)

Documentation

Jump to: [Vertebrates/Fish](#)
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2 [Opisthokonts](#) (P2673)
3 [Choanoflagellates And Animals](#) (P2674)
 [Metazoa](#) (D1)
 [Chordata](#) (D1537)
 [Vertebrata](#) (D1543)
 [Gnathostomata](#) (D1547)
 [Osteichthyes](#) (D1555)
Class [Actinopterygii](#) (F192005)
Order [Perciformes](#) (F180037)
Family [Pomatomidae](#) (F175393)
Genus [Pomatomus](#) (F103337)
Binomen [Pomatomus saltator](#) [Entrez](#) (F364) 0

Names:

[Bluefish](#) (E)
[Pomatomus saltator](#) (L)
[Cheilodipterus heptacanthus](#) (Syn)

FIG. 36A

Cheilodipterus saltatrix (Syn)
 Chromis epicurorum (Syn)
 Gasterosteus saltatrix (Syn)
 Gonenion serra (Syn)
 Lopharis mediterraneus (Syn)
 Perca lophar (Syn)
 Pomatomus pedica (Syn)
 Pomatomus saltatrix (Syn)
 Pomatomus skib (Syn)
 Scomer sypterus (Syn)
 Sparactodon nalnal (Syn)
 Sypterus pallasii (Syn)
 Temnodon conidens (Syn)
 Temnodon saltator (Syn)
 Temnodon tubulus (Syn)
 Chopper (E)
 Tailor (E)
 Snapper Blue (E)
 Tassergal (FR)
 Anjova (Sp)
 Sinikala (Fi)
 Blaufisch (Gr)
 Gofári (Gk)
 Pesce serra (It)
 Amikiri (Jp)
 Anchova (Pr)

FIG. 36B

Plitica (SC)
 Strijelka skakusa (Serb)
 Lüfer (Tk)
 Blue-fish (E)
 Anchova (Pr)
 Shad (E)
 Elf (E)
 Tekwaya (Ar)
 Tekwa (Ar)
 Tasergal (Po)
 Teleskopabborre (Sw)
 Dyphavsabbor (No)
 Enchova (Pr)
 Skipjack (E)
 Anchova de banco (Sp)
 Elwe (Af)



Data Views:   Level: SQL outputs: parent/child & columns :
 explode Delimiter: Pending

FIG. 36C

Various output formats served by the Name Server layer via a Taxonomic Name Server

A table of all names and their qualifiers	A string containing the preferred name	A table with a specified list of taxa levels and the preferred name	The full ICZN classification with "##" as a delimiter
tns -nq "Name/Qualifier" -t-name "Pomatomus saltatrix"	tns -pv -name "Pomatomus saltatrix" -s	tns -c,pv,l "Kingdom,Phylum,Class,Order,Family,Genus,Species" -name "Pomatomus saltatrix"	tns -c,pv,a -name "Pomatomus saltatrix" -l-t##
Name Qualifier		Kingdom Eukaryota	EUKARYOTES##Living_Organisms Kingdom##
Bluefish (E)	Pomatomus saltator	Phylum Chordata	SubKingdom##OPISTHOKONTS ParvPhylum##Metazoa
Pomatomus saltator (L)		Class Actinopterygii	Phylum##Chordata Subphylum ##Vertebrata
Cheilodipterus heptacanthus (Syn)		Order Perciformes	Superclass## Gnathostomata Class##Osteichthyes
Cheilodipterus saltatrix (Syn)		Family Pomatomidae	subClass## Actinopterygii SuperClass##Pisces
Chromis epicurorum (Syn)		Genus Pomatomus	Class##Actinopterygii Order##Perciformes

FIG. 37A

Various output formats served by the Name Server layer via a Taxonomic Name Server			
Gasterosteus saltatrix (Syn)	Species	saltator	Family##Pomatomidae Genus##Pomatomus Species##saltator
Gonionon serra (Syn)	<p>or the same table with common English names</p> <p>tns -c,ce,l</p> <p>"Kingdom,Phylum,Class,Order,Family,Genus,Species"</p> <p>-name "Pomatomus saltatrix" -t:</p>		
Lopharis mediterraneus (Syn)	Kingdom: EUKARYOTES		
Perca lophar (Syn)	Phylum: Animals with Backbones		
Pomatomus pedica (Syn)	Class: Ray-finned Fish		
Pomatomus saltatrix (Syn)	Order: Perches and Allies		
Pomatomus skib (Syn)	Family: Bluefish Family		
Scomer sypterus (Syn)	Genus: Bluefish		
Sparactodon nalnal (Syn)	Species: Bluefish		
Sypterus pallasii (Syn)			

Various output formats served by the Name Server layer via a Taxonomic Name Server			
Temnodon confidens	(Syn)		
Temnodon saltator	(Syn)		
Temnodon tubulus	(Syn)		
Chopper	(E)		
Tailor	(E)		
Snapper Blue	(E)		

FIG. 37C

ENTITYID NAME URL
 AR1001 POMATOMUS SALTATRIX HTTP://ZEUS.MBL.EDU/AD.PL?
 ZT7801 STENOBOMUYS CHRYSOPS HTTP://WWW.MBL.EDU/ANIMA

.....

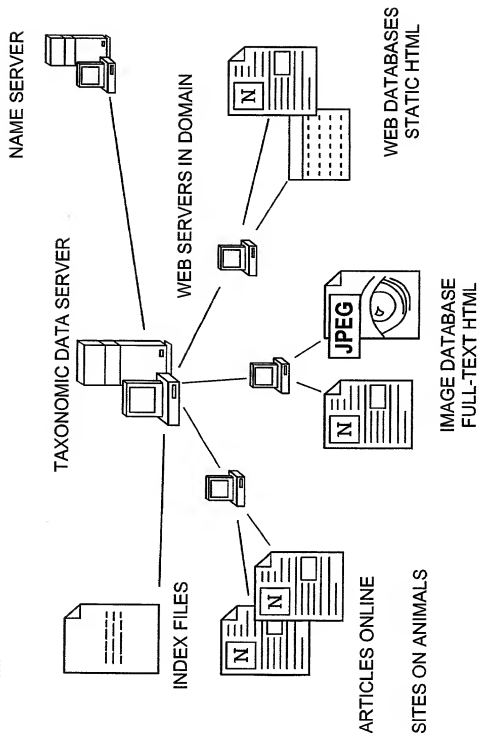


FIG. 38